CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-XXX

NPDES NO. CA0082708
FOR
ROCKWELL INTERNATIONAL CORPORATION
AND
PORTERVILLE UNIFIED SCHOOL DISTRICT
GROUNDWATER CLEANUP SYSTEM
TULARE COUNTY

Specific sample station locations shall be established with concurrence of the Regional Board's staff, and the Discharger shall attach a copy of Regional Board staff's written concurrence and a description of the stations to its copy of this Monitoring and Reporting Program. All analyses shall be performed using methods approved by USEPA and the Regional Board. In reporting data, the Discharger shall indicate whether any analysis was performed using a method not in conformance with USEPA's Guidelines.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge the Discharger shall monitor and record influent, mid-treatment, and effluent data for all of the constituents listed below, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. For this Order, the Regional Board considers an intermittent discharge, any period of no discharge prolonged more than seven days. In no event shall the Discharger be required to monitor and record the data more often than twice the frequencies listed in the schedule.

## INFLUENT MONITORING

Samples shall be collected for each extraction well (currently REX-1 and REX-2) prior to entering the GWCS for Discharge No. 001 at approximately the same time as effluent samples. Influent samples shall be representative of the volume and quality of extracted groundwater. The time of collection of samples shall be recorded. Influent monitoring points shall be defined as:

I-001 for samples collected for extraction well REX-1
I-002 for samples collected for extraction well REX-2

Influent monitoring shall include at least the following:

| Constituents | Units | Sample Type | Sampling Frequency |
|---|---|---|---|
| Carbon Tetrachloride[1] | µg/L | Grab | Monthly |
| Chloroform[1] | µg/L | Grab | Monthly |
| Methylene Chloride[1] | µg/L | Grab | Monthly |
| 1,1-DCA[1] | µg/L | Grab | Monthly |
| 1,2-DCA[1] | µg/L | Grab | Monthly |

| Constituents | Units | Sample Type | Sampling Frequency |
|---|---|---|---|
| 1,1-DCE[1] | µg/L | Grab | Monthly |
| PCE[1] | µg/L | Grab | Monthly |
| 1,1,1 TCA[1] | µg/L | Grab | Monthly |
| 1,1,2 TCA[1] | µg/L | Grab | Monthly |
| TCE[1] | µg/L | Grab | Monthly |
| Trichlorofluoromethane[1] | µg/L | Grab | Monthly |
| Other VOCs[2,3] | µg/L | Grab | Quarterly |
| Conductivity | µmhos/cm | Grab | Monthly |
| Boron | mg/L | Grab | Monthly |
| Chloride | mg/L | Grab | Monthly |
| Hardness as $CaC0_3$ | mg/L | Grab | Monthly |

1. Test Method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
2. All typical volatile organic constituents listed in Appendix 4 of the Implementation Policy.
3. VOCs = Volatile Organic Compounds

## EFFLUENT MONITORING

Effluent samples shall be collected at discharge point D-001 from the last connection through which wastes can be admitted into the outfall. Effluent samples should be representative of the volume and nature of the discharge. Time and specific location of collection of the grab sample shall be recorded. The following shall constitute the effluent monitoring program:

| Constituents | Units | Sample Type | Sampling Frequency |
|---|---|---|---|
| Total Flow[1] | mgd | Metered | Monthly[8] |
| Temperature | °C | Grab | Monthly |
| Ammonia | mg/L | Grab | Monthly[7] |
| Barium | mg/L | Grab | Monthly[7] |
| Arsenic | µg/L | Grab | Monthly[7] |
| Chromium III | µg/L | Grab | Monthly[7] |
| Chromium VI | µg/L | Grab | Monthly[7] |
| Mercury | µg/L | Grab | Monthly[7] |
| Selenium | µg/L | Grab | Monthly[7] |
| Zinc | µg/L | Grab | Monthly[7] |
| General Minerals[2] | mg/L | Grab | Monthly[7] |
| Boron | mg/L | Grab | Monthly[7] |

| Constituents | Units | Sample Type | Sampling Frequency |
|---|---|---|---|
| Carbon Tetrachloride[3] | µg/L | Grab | Monthly |
| Chloroform[3] | µg/L | Grab | Monthly |
| Methylene Chloride [3] | µg/L | Grab | Monthly |
| 1,1-DCA[3] | µg/L | Grab | Monthly |
| 1,2-DCA[3] | µg/L | Grab | Monthly |
| 1,1-DCE[3] | µg/L | Grab | Monthly |
| PCE[3] | µg/L | Grab | Monthly |
| 1,1,1 TCA[3] | µg/L | Grab | Monthly |
| 1,1,2 TCA[3] | µg/L | Grab | Monthly |
| TCE[3] | µg/L | Grab | Monthly |
| Trichlorofluoromethane[3] | µg/L | Grab | Monthly |
| Other VOCs[3,4,5] | µg/L | Grab | Quarterly |
| Acute Toxicity[6] | % Survival | 24-hour Composite | Annually |

1. The frequency shall be increased to "Daily" if the flow capacity of the GWCS increases.
2. General Minerals as referred to in this program shall include alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness, hydroxide, iron, magnesium, manganese, pH, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses should be accompanied by an anion cation balance demonstrating that analyses are complete.
3. Test Method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L, or an equivalent method to achieve minimum MLs specified in Appendix 4 of the most current Implementation Plan.
4. All typical volatile organic constituents listed in Appendix 4 of the Implementation Policy.
5. VOCs = Volatile Organic Compounds.
6. All acute toxicity bioassays shall be performed according to EPA-821-R-02-012 *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition,* October 2002 (or latest edition) using *Pimephales promelas* with no pH adjustment. Temperature and pH shall be recorded at the time of bioassay sample collection.
7. After one year of monitoring and reporting, the Discharger may request the Executive Officer reduce or eliminate the monitoring frequency.
8. Reported as maximum daily flow (see Standard Provision E.2).

If other constituents of concern are identified as being present or potentially being present in groundwater discharged under this Order, then this Order may be revised or a new monitoring and reporting program issued to include monitoring requirements for those constituents.

If results of monitoring a pollutant appear to violate instantaneous maximum limitations, the frequency of sampling shall be increased to daily until compliance is verified. If effluent monitoring detects a pollutant at concentrations greater than a daily maximum limitation, the Discharger shall resample and reanalyze the discharge immediately after receiving knowledge of the exceedance. If the Discharger does not increase monitoring frequency for instances of apparent violation, compliance with Daily

Maximum and Monthly Average limitations will be determined with available monitoring data in accordance with Provision E.7.

If the discharge is intermittent, rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply. For this Order, the Regional Board considers an intermittent discharge, any period of no discharge prolonged more than seven days.

The Discharger shall report the Minimum Level (ML) and the laboratory's Method Detection Limit (MDL) for each sample result. Results greater than or equal to the ML shall be reported as measured. Sample results less than the ML but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified" (DNQ). The estimated chemical concentration of the sample shall also be reported. The laboratory may include numerical estimates of the data quality. Results less than the laboratory's MDL shall be reported as "Not Detected" (ND).

***Planned and Unplanned Treatment System Shutdown***

If the system has a scheduled or unscheduled shutdown, samples shall be analyzed immediately upon startup and daily until continuous steady-state operation is achieved for the following constituents:

- Carbon tetrachloride
- Chloroform
- Methylene chloride
- 1,1-DCA
- 1,2-DCA
- 1,1-DCE
- 1,1,1-TCA
- 1,1,2-TCA
- TCE
- Trichlorofluoromethane

The Discharger shall ensure there is sufficient time between sample collection to avoid sample clustering.

## RECEIVING WATER SAMPLING

All receiving water samples shall be grab samples. Samples shall be collected at approximately the same time as the collection of effluent samples. Receiving water monitoring is not required when the discharge represents the entire flow in the receiving waters. Receiving water monitoring shall include at least the following and be performed at sample stations associated with the approved discharge point in

use.

| Station | Description |
|---|---|
| R - 1 | As determined by Executive Officer written approval of the technical report required by Provision E.9 of Order R5-2005-XXX |
| R - 2 | As determined by Executive Officer written approval of the technical report required by Provision E.9 of Order R5-2005-XXX |

| Constituents | Units | Station | Frequency |
|---|---|---|---|
| Estimated flow | cfs | R-1, R-2 | Quarterly |
| Dissolved Oxygen | mg/L | R-1, R-2 | Quarterly |
| Temperature | °F | R-1, R-2 | Quarterly |
| General Minerals[1,2] | mg/L | R-1, R-2 | Quarterly |

[1] General Minerals as referred to in this program shall include alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness, hydroxide, iron, magnesium, manganese, pH, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses shall be accompanied by an anion cation balance demonstrating that analyses are complete.

[2] After one year of monitoring and reporting, the Discharger may request the Executive Officer reduce the monitoring frequency.

## THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA-821-R-02-013*, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* Fourth Edition, October 2002. Composite samples shall be collected at discharge point D-001 prior to discharge to Pioneer Ditch. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Time of collection samples shall be recorded. Dilution and control waters shall be provided by the laboratory or collected from the potable water supply at the facility. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas*, C*eriodaphnia dubia* and *Selenastrum capriconicutum*
Frequency: Quarterly.
Dilution Series: *See Table below*

| | Dilutions (%) | Controls |
|---|---|---|

| | Dilutions (%) | | | | | Controls | |
|---|---|---|---|---|---|---|---|
| | 100 | 50 | 25 | 12.5 | 6.25 | Receiving Water[1] | Lab Water |
| % Effluent | 100 | 50 | 25 | 12.5 | 6.25 | 0 | 0 |
| % Dilution Water[1] | 0 | 50 | 75 | 87.5 | 93.75 | 100 | 0 |
| % Lab Water[2] | 0 | 0 | 0 | 0 | 0 | 0 | 100 |

[1] Dilution water shall be from the upstream sampling point in the receiving water established through Provision E.9 of Order R5-2005-XXXX. The dilution series may be altered upon written approval of Regional Board staff.

[2] Lab water shall meet EPA protocol requirements

If chronic toxicity analyses conducted for four consecutive quarters demonstrate that the effluent does not exhibit toxicity, chronic toxicity monitoring may be discontinued, subject to the approval of the Executive Officer.

## PRIORITY POLLUTANT MONITORING

The Discharger shall conduct effluent monitoring of priority pollutants **one time no more than 365 days and no less than 180 days prior to expiration of this Order**. The list of priority pollutants and required minimum levels (MLs) (or criterion quantitation limitations) is included as **Attachment B**. The Discharger must analyze pH and hardness at the same time as priority pollutants.

All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

## REPORTING

Monitoring results shall be submitted to the Regional Board by the **1st day of the second month following sample collection**. Quarterly monitoring results shall be submitted by the **1st day of the second month following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November) following each calendar quarter**. Annual monitoring results shall be submitted by **1 February of each year**. Reports shall be submitted whether or not there was a discharge during the reporting period. Failure to submit a report will result in an assessment of a Minimum Mandatory Penalty pursuant to CWC Section 13385.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly the compliance with waste discharge requirements. The highest daily maximum for the month and monthly averages shall be determined and recorded. The report shall also include an evaluation of the groundwater cleanup progress, trends, monitoring well analyses and plume containment. If this evaluation is already submitted to the Regional Board in a separate report, then the Discharger may reference the date and title of the most recent report in lieu of including it with the NPDES monitoring report.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring form.

By **1 February** of each year, the Discharger shall submit an annual written report to the Executive Officer containing the following:

a. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.

b. A statement certifying when monitoring instruments and devices were last calibrated (for purposes of assuring compliance with this Order), including identification of who performed the calibration (Standard Provision C.6).

c. A statement certifying whether the current operation and maintenance manual and contingency plan reflect the Facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

d. Tabular and graphical summaries of the monitoring data obtained during the previous year. Monitoring data shall also be submitted in electronic format acceptable to the Executive Officer (e.g. Microsoft Excel).

e. A discussion of the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by:_____
THOMAS R. PINKOS, Executive Officer

_____
Date